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Comparison of Individual and Pooled Samples for Quantification of Antimicrobial Resistance Genes in Swine Feces by High-throughput qPCR

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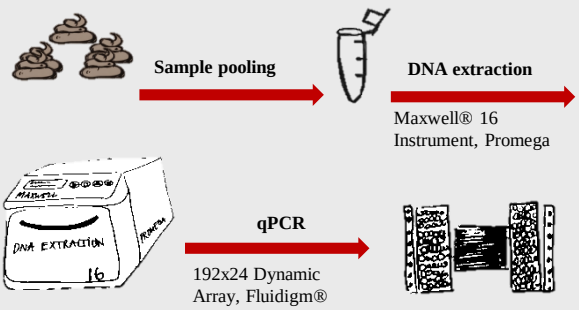
OBJECTIVE

Determine the number of samples in a pool giving a representative sample for antimicrobial resistance gene quantification in Danish pig herds.

SAMPLING

20 individual fecal samples were collected from a section in a Danish pig herd. One to five rectal fecal samples were taken from each pen with respect to the number of pigs in the pen. A total of 48 pools were made of increasing number of individual samples.

MATERIALS AND METHODS



RESULTS AND CONCLUSION

There were large variations in the levels of antimicrobial resistance genes between individual samples. As the number of samples in a pool increased a decrease in sample variation was observed. A steady state in the sample variation was seen when pooling five or more samples. No significant difference was found between pools of five samples and pools of more. There were highly significant differences between pools of five or more samples and pools of less samples. **Five samples in a pool is the optimal number.**

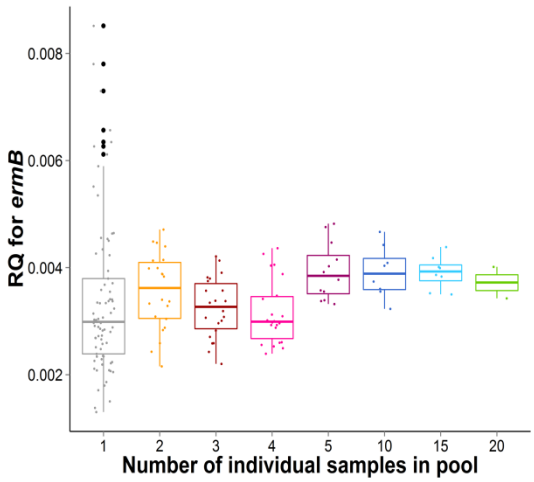


Figure 1 . Relative quantification values (RQ) for *ermB* from individual samples and pooled samples.

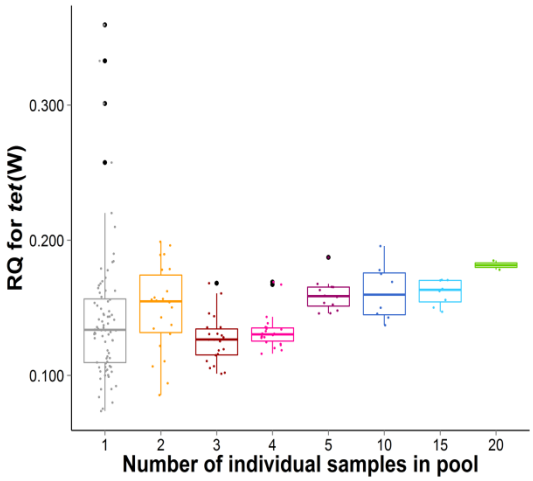


Figure 2. Relative quantification values (RQ) for *tet*(W) from individual samples and pooled samples.

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